

# Overview of New FourStar® Products

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Central Life Sciences

# Bti & Bsph

Bacillus Thuringiensis Israelensis

Bacillus Sphaericus

## Bti – 2 products

- FourStar SBG 2.15%
- FourStar Bti-CRG 10%

# Bti & Bs combinations

## 3 Granular & 3 Briquets

- FourStar MBG (3% Bs & 3% Bti)
  - FourStar MBG WSP (Water Soluble Pouch)
  - FourStar CRG (9% Bs & 1%Bti)
- 
- FourStar Briquets (6% Bs & 1%Bti)
    - 45 day
    - 90 day
    - 180 day

## Product Design

- FourStar product design is a culmination of many years of operational experience in California and Minnesota which demonstrated the advantages of high density granules.
- FourStar design goals:
  - Utilize microbial actives Bti and Bsph
  - Develop single brood and multi-brood granule formulations
  - Utilize high density silica carrier for improved vegetation penetration
  - Include pre-flood and wet/dry capability when possible
  - Incorporate resistance management through blending of actives

## FourStar Microbial Delivery

- Microbial actives are particulate, slowly settle out over time, and must be delivered at the water surface to be available for larval ingestion.
- FourStar high density granules sink, then release buoyant particles to the surface and throughout the water column using patented Dual Action Release technology.

# Why bulk density matters...

The numbers:

- Bti Corn Cob
  - 25 lbs/ft<sup>3</sup> (G)
  - 30 lbs/ft<sup>3</sup> (CG/GS)
- FourStar SBG
  - 87 lbs/ft<sup>3</sup>
  - 2.9 times more dense



FourStar benefits:

- 2.9 times more acres treated per load
- Better penetration through canopy
- Can be applied on windy days
- Wider application swath/less application time needed

# Dual Action Release



There are two types of Dual Action Release technology;

- Flash Release/Fizz & Float
- Controlled Release/Float





# New Equipment



# Benefits of New Equipment

- Large scale production capabilities
- Consistent from batch to batch
- Better quality control
- Faster more efficient production
- Opportunity to explore new or improved manufacturing process capabilities



# SBG (Single Brood Granule)



SBG

Specimen Label

## Single Brood Bti Sand Granule

### ACTIVE INGREDIENT:

*Bacillus thuringiensis* subspecies *israelensis* Strain BMP 144 solids, ..... 2.15%

spores and insecticidal toxins\*

OTHER INGREDIENTS: ..... 97.85%

TOTAL: ..... 100.00%

\* Equivalent to 150 International Toxic Units (ITU/mg).

Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

### KEEP OUT OF REACH OF CHILDREN CAUTION

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION:

Harmful if absorbed through skin or if inhaled. Avoid contact with skin, eyes or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

### ENVIRONMENTAL HAZARDS:

Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

FIRST AID	
If on skin	<ul style="list-style-type: none"><li>Take off contaminated clothing.</li><li>Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>Call a poison control center or doctor for treatment advice.</li></ul>
If inhaled	<ul style="list-style-type: none"><li>Move person to fresh air.</li><li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible.</li><li>Call a poison control center or doctor for treatment advice.</li></ul>
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	

### DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

### APPLICATION DIRECTIONS

FourStar SBG is a highly selective single brood microbial insecticide effective against mosquito larvae in a variety of aquatic habitats. FourStar SBG releases effective levels of *Bacillus thuringiensis* subspecies *israelensis* to the water surface and throughout the water column.

Apply uniformly according to rates listed below by conventional aerial or ground equipment as needed to maintain mosquito control. For permanently flooded habitats, a 7 to 14 day interval between applications should be employed.

Avoiding spray drift at the application site is the responsibility of the applicator.

The interaction of many equipment and weather related factors determine the potential spray drift. The applicator and treatment coordinator are responsible for considering all these factors when making decisions.

### APPLICATION SITES

FourStar SBG can be applied to areas that contain aquatic life, fish and plants as well as areas in contact with humans, animals, horses, livestock, pets, birds or wildlife. Examples of application sites include: flood water, standing water, roadside ditches, irrigation ditches, pastures, woodland pools, snow melt pools, tidal water, salt marshes, mangroves, estuaries, catch basins, storm drains, storm water collection areas, retention and detention impoundments, irrigation reservoirs, lakes and ponds, abandoned swimming pools, ornamental fountains and ponds, water gardens, animal drinking troughs, water holding receptacles, rice fields, standing water in agricultural fields.

### APPLICATION RATES

To control mosquito larvae, apply 3 to 10 lbs of FourStar SBG per acre. Use 10 to 20 lbs of FourStar SBG per acre when late 3rd and early 4th instar larvae predominate, larval populations are high, water is heavily polluted and/or algae are abundant.

### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in a cool, dry place.

**Pesticide Disposal:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

**Container Disposal:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

### NOTICE TO USER

To the extent consistent with applicable law, seller makes no warranty express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. To the extent consistent with applicable law, user assumes all risks of use, storage or handling not in strict accordance with label instructions.



Always read the label before using this product. For product information, call 1-877-264-6655 or visit our web site: [www.fourstar-microbials.com](http://www.fourstar-microbials.com)



Fourstar Microbial Products LLC, Sag Harbor, New York, U.S.A. | Made in USA | EPA Reg. No. 85685-1  
FourStar is a registered trademark of BZE Microbiols LLC | ©2011 Fourstar | U.S. Patent No. 5,494,600

REV03/11

# FourStar SBG

## FourStar® SBG features:

- A proven microbial active ingredient
- A high-density, uniformly spherical design
- Reduced bulk heavy sand
- OMRI listed
- 2.15% *Bti sand granule*

## FourStar® SBG benefits:

- Improved vegetation penetration
- Wider application swath
- Less target drift
- OMRI listed to alleviate community concern
- Higher bulk density allows more coverage per application



## SBG (Single Brood Granule)

<b>Percent Active:</b>	2.15% Bti
<b>Technology:</b>	Dual Action – Flash Release
<b>Key Features:</b>	<ul style="list-style-type: none"><li>• Uniform high density silica carrier</li><li>• Optimal vegetation penetration</li><li>• Wider swath, more acres per load</li><li>• Minimal dust</li></ul>
<b>Habitat:</b>	Short duration field treatments – Floodwater, standing water, including standing water in agricultural fields
<b>Notes:</b>	<ul style="list-style-type: none"><li>• EPA Registered</li><li>• OMRI Listed (organic certified)</li></ul>

# FourStar Bti-CRG

## FourStar® Bti-CRG features:

- High density, spherical silica sand carrier
- 10% *Bti* active ingredient
- Dual action controlled release technology
- Up to 40 days residual
- Effective in intermittent flood areas
- Available in 35-lb poly bags



## FourStar® Bti-CRG benefits:

- Can be applied to pre-flood areas
- Wet/dry effectiveness reduces application
- Weight provides optimal vegetation penetration
- Less target drift
- Higher bulk density allows more coverage per application

## Bti-CRG (Controlled Release Granule)

<b>Percent Active:</b>	10% Bti
<b>Technology:</b>	Dual Action – Flash Release
<b>Key Features:</b>	<ul style="list-style-type: none"><li>• Uniform high density silica carrier</li><li>• Optimal vegetation penetration</li><li>• Wider swath, more acres per load</li><li>• Minimal dust</li></ul>
<b>Habitat:</b>	intermittent Flood area, canopy, vegetation, wet/dry, standing water
<b>Notes:</b>	<ul style="list-style-type: none"><li>• 40 days and 4 floods</li><li>• Wet/dry</li></ul>

# MBG (Multi-Brood Granule)



**MBG**

Specimen Label

## Multi-Brood Granule

### ACTIVE INGREDIENTS:

*Bacillus sphaericus* 2362, Serotype H5a5b, strain AMUG14\* 3.0%

*Bacillus thuringiensis* subspecies *israelensis* Strain BMP 144 solids, 3.0%

spores and insecticidal toxins\* 94.0%

OTHER INGREDIENTS 100.0%

TOTAL

\*Equivalent to 30 Bt (IU)/mg and 210 Bt (IU)/mg respectively. Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION:

Irritant/moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Masks / Respirators must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

#### ENVIRONMENTAL HAZARDS:

Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

### FIRST AID

<b>If inhaled</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>

### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

### DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

#### APPLICATION DIRECTIONS

**FourStar® MBG** is a highly selective multi-brood microbial insecticide effective against mosquito larvae in a variety of aquatic habitats for up to 4 weeks. **FourStar MBG** releases effective levels of *Bacillus sphaericus* and *Bacillus thuringiensis* subspecies *israelensis* to the water surface and throughout the water column.

Apply uniformly according to rates listed below by aerial or conventional ground equipment. Reapply after 1 to 4 weeks under typical environmental conditions. More frequent applications may be made if monitoring indicates larval populations have reestablished or weather conditions have rendered initial treatments ineffective.

#### APPLICATION SITES

**FourStar MBG** can be applied to areas that contain aquatic life, fish and plants as well as areas in contact with humans, animals, horses, livestock, pets, birds or wildlife.

Examples of application sites include:

Natural and man-made aquatic sites such as lakes, ponds, canals, rivers and streams (including river & stream edges), floodplains, swamps, marshes, irrigation ditches, flood water, woodland pools, snow melt pools, livestock watering ponds and troughs, tidal water, salt marshes, mangroves, estuaries, drainage ditches, roadside ditches, retention, detention, and seepage ponds, sewage effluent, sewage lagoons, oxidation ponds, septic ditches, animal waste lagoons, impounded wastewater associated with fruit and vegetable processing, Rice fields, pastures/hay fields, orchards (including citrus groves, peaches, almonds, dates, walnuts), asparagus fields, corn fields, cotton fields, alfalfa fields, vineyards.

Any location where water accumulates and remains standing for periods of time, except treated, finished drinking water for human consumption.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential spray drift. The applicator and treatment coordinator are responsible for considering all these factors when making decisions.

#### APPLICATION RATES

To control mosquito larvae, apply 5 to 10 lbs of **FourStar MBG** per acre. Use 10 to 20 lbs per acre where late instar larvae predominate, larval populations are high, water is heavily polluted and/or algae are abundant, or under conditions where local experience indicates the need for higher rates to achieve extended control.

#### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in a cool, dry place.

**Pesticide Disposal:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (when such programs are run by state or local governments or by industry).

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Then offer for recycling (if available), or dispose of empty bag in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

#### NOTICE TO USER

To the extent consistent with applicable law, seller makes no warranty express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. To the extent consistent with applicable law, user assumes all risks of use, storage or handling not in strict accordance with label instructions.



Always read the label before using this product. For product information, call 1-877-254-5555 or visit our web site: [www.fourstarproducts.com](http://www.fourstarproducts.com)



Fourstar Microbial Products LLC, Sag Harbor, New York, U.S.A. | Made in USA | EPA Reg. No. 85695-3  
FourStar is a registered trademark of BGE Microbials LLC | ©2012 Fourstar | U.S. Patent No. 5,494,600

WV10712



# FourStar MBG



## FourStar® MBG features:

- High density, spherical sand carrier
- 3-to-3 (3% *Bsph* / 3% *Bti*) combination active ingredients
- Dual action flash release technology
- Bulk density at 65 lbs/ft<sup>3</sup>
- Up to 4 weeks residual
- Control of both floodwater species and *Culex* species
- Available in 40-lb poly bags

## FourStar® MBG benefits:

- Covers wide range of mosquito species
- Heavier granule provides optimal vegetation penetration
- Long residual saves labor
- Dual active ingredients help prevent resistance development
- Granules are easy on equipment
- Expanded aerial application window
- Less target drift
- Higher bulk density allows more coverage per application

## MBG (Multi-Brood Granule)

<b>Percent Active:</b>	3% Bsph + 3% Bti
<b>Technology:</b>	Dual Action – Flash Release
<b>Key Features:</b>	<ul style="list-style-type: none"><li>• Up to 4 weeks control duration</li><li>• Dual actives control wide range of species</li><li>• Dual actives to prevent resistance development</li><li>• Optimal vegetation penetration</li><li>• Minimal dust</li></ul>
<b>Habitat:</b>	Permanent water habitat, mixed species, natural or man made sites, any where water may stand, expect finished human drinking water
<b>Notes:</b>	<ul style="list-style-type: none"><li>• EPA Registered</li></ul>

# WSP (Water Soluble Pouch)



**WSP**

Specimen Label

## Water Soluble Pouch

### ACTIVE INGREDIENTS:

*Bacillus sphaericus* 2382, Serotype H56b, strain AML614\* 3.0%

*Bacillus thuringiensis* subspecies *israelensis* Strain BMP 144 isolates, spores and insecticidal toxins\* 94.0%

OTHER INGREDIENTS: 100.0%

TOTAL: 100.0%

\*Equivalent to 30 Bt (IU)/mg and 210 Bt (IU)/mg respectively. **Note:** The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS – CAUTION:

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

#### ENVIRONMENTAL HAZARDS:

Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

### FIRST AID

#### If in eyes

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes.
- Call a poison control center or doctor for treatment advice.

#### If on skin

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

### DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

**Fourstar WSP:** Once the foil bag containing Water Soluble Pouches is opened, minimize exposure of the WSP to humidity.

### APPLICATION DIRECTIONS

**Fourstar<sup>®</sup> WSP** is a highly selective multi-brood microbial insecticide effective against mosquito larvae in a variety of aquatic habitats for up to 8 weeks. **Fourstar WSP** releases effective levels of *Bacillus sphaericus* and *Bacillus thuringiensis* subspecies *israelensis* to the water surface and throughout the water column.

Apply uniformly according to rates listed below by hand. Reapply after 1 to 8 weeks under typical environmental conditions. More frequent applications may be made if monitoring indicates that larval populations have reestablished or weather conditions have rendered initial treatments ineffective.

### APPLICATION SITES

**Fourstar WSP** can be applied to all field mosquito development sites that contain aquatic life, fish and plants as well as areas in contact with humans, animals, horses, livestock, pets, birds or wildlife.

Examples of application sites include:

Natural and man-made aquatic sites such as catch basins and storm drains, abandoned swimming pools, unused swimming pools or spas, flooded basements, pool covers, gutters and drains, wheelbarrows, garbage cans and covers, discarded tires, ponds, lagoons, hollow trees and tree holes, urns, rain barrels, livestock watering troughs/ponds/tanks, irrigation ditches, roadside ditches, water gardens, impounded wastewater associated with fruit and vegetable processing, retention, detention and seepage ponds, animal waste lagoons, flood water, standing water, storm water retention areas, birdbaths, fountains, flowerpots and planters, snow melt pools, septic tanks.

Any location where water accumulates and remains standing for periods of time, except treated, finished drinking water for human consumption.

### APPLICATION RATES

Apply on basis of surface area of potential mosquito breeding sites by placing one (1) **Fourstar WSP** for up to 50 square feet of treatment area. For larger sites, apply 1 additional pouch for each additional 50 square feet of surface area. In areas where late instar larvae predominate, larval populations are high or under conditions where local experience indicates the need for higher rates to achieve extended residual control, double the application rate.

### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in a cool, dry place.

**Pesticide Disposal:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available, or dispose of the empty outer foil pouch in the trash as long as WSP is unbroken.

### NOTICE TO USER

To the extent consistent with applicable law, seller makes no warranty express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with label instructions.



# FourStar WSP

## FourStar® WSP features:

- 10 grams of multi-brood granules in each pouch
- 3-to-3 (3% *Bsph* / 3% *Bti*) combination active ingredients
- Dual Action flash release technology
- Up to 8 weeks residual
- 400 10-gram pouches per case
- 1 WSP up to 50 sq/ft



## FourStar® WSP benefits:

- Dual active ingredients help prevent resistance development
- The small pouch fits in tight areas
- Easy to apply

## WSP (Water Soluble Pouch)

<b>Percent Active:</b>	3% Bsph + 3% Bti
<b>Technology:</b>	Dual Action – Flash Release
<b>Key Features:</b>	<ul style="list-style-type: none"><li>• Up to 8 weeks control duration.</li><li>• Dual actives to prevent resistance development.</li><li>• High density product allows for smaller pouch to fit in smaller places, grates, man hole covers etc.</li></ul>
<b>Habitat:</b>	Catch Basins, tree holes, water troughs, ponds, tanks, any small Urban sites, except finished human drinking sites
<b>Notes:</b>	<ul style="list-style-type: none"><li>• EPA Registered</li></ul>

# CRG (Controlled Release Granule)



CRG

Specimen Label

## Multi-Brood Controlled Release Granule

### ACTIVE INGREDIENTS:

<i>Bacillus sphaericus</i> Serotype H5a5b, strain 2382 solids, AML SPH 68*	9.0%
<i>Bacillus thuringiensis</i> subspecies <i>israelensis</i> Strain BMP 144 solids, spores and insecticidal toxins*	1.0%
OTHER INGREDIENTS:	90.0%
TOTAL:	100.0%

\* Equivalent to 90 Bt ITU/mg and 70 Bt ITU/mg respectively.  
Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

### FIRST AID

<b>If Inhaled</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If in eyes</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes.</li><li>• Call poison control center or doctor for treatment advice.</li></ul>
<b>If on skin</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call poison control center or doctor for treatment advice.</li></ul>

### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION:

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Mixers / loaders must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

#### ENVIRONMENTAL HAZARDS:

Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

#### DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

#### APPLICATION DIRECTIONS

**FourStar CRG** is a highly selective multi-brood microbial insecticide granule effective against mosquito larvae in a variety of aquatic habitats for up to 60 days. **FourStar CRG** releases effective levels of *Bacillus sphaericus* and *Bacillus thuringiensis* subspecies *israelensis* to the water surface and throughout the water column over time.

**FourStar CRG** can be applied prior to flooding, (i.e. "pre-hatch") to known breeding sites that flood intermittently. In such areas, one application of **FourStar CRG** prevents adult mosquito emergence for up to four subsequent floodings or up to 60 days. The actual length of control depends on the duration and frequency of flooding events. Alternate wetting and drying will not reduce granule effectiveness.

Apply uniformly according to rates listed below by conventional aerial or ground equipment as needed to maintain mosquito control. Reapply after 60 days under typical environmental conditions. More frequent applications may be made if monitoring indicates that larval populations have reestablished or weather conditions have rendered initial treatments ineffective.



# FourStar CRG



## FourStar® CRG features:

- High density, spherical sand carrier
- 9-to-1 (9% *Bsph* / 1% *Bti* ) combination active ingredients
- Dual action controlled release technology
- Bulk density of 51 lbs/ft<sup>3</sup>
- Up to 60 days control & 4 Floods
- Effectiveness in intermittent flood areas
- Available in 35-lb poly bags

## FourStar® CRG benefits:

- Can be applied to pre-flood areas
- Wet/dry effectiveness reduces applications
- Dual active ingredients help prevent resistance development
- Weight provides optimal vegetation penetration
- Less target drift
- Higher bulk density allows more coverage per application



## CRG (Controlled Release Granule)

<b>Percent Active:</b>	9% Bsph + 1% Bti
<b>Technology:</b>	Dual Action – Controlled Release
<b>Key Features:</b>	<ul style="list-style-type: none"><li>• Up to 60 days + control duration (wet &amp; dry)</li><li>• Controls up to 4 floodings (unique for microbials)</li><li>• Pre-flood application option (unique for microbials)</li><li>• Dual actives to prevent resistance development</li></ul>
<b>Habitat:</b>	Intermittent Floodwater Habitat, Wet/Dry sites, cattail marshes, pools, ponds, meadows,
<b>Notes:</b>	<ul style="list-style-type: none"><li>• EPA registered</li></ul>



## Bulk Density Comparison

Product	Granule Size U.S. Std. Screen (Metric Conversion)	Bulk Density
VectoBac G	5/8	25 lbs/ft <sup>3</sup>
VectoBac/Lex/Max GS	10/14	30 lbs/ft <sup>3</sup>
VectoBac GR	10/20	43 lbs/ft <sup>3</sup>
Altosid SBG	6/20	75 lbs/ft <sup>3</sup>
Altosid XRG	12/20	100 lbs/ft <sup>3</sup>
FourStar CRG	10/16	51 lbs/ft <sup>3</sup>
FourStar MBG	10/16	65 lbs/ft <sup>3</sup>
FourStar SBG	10/16	87 lbs/ft <sup>3</sup>

## Application Benefits of FourStar Granules



- Improved vegetation penetration
- Reduced bulk, treats more acres per load = less ferry time and reloading
- Expanded aerial application window
- Apply at higher wind speeds with less drift off target
- Dense sand granule produces a wider swath pattern
- Uniform sand size for easier calibration

## FourStar Granule Summary

	<b>SBG</b>	<b>Bit-CRG</b>	<b>CRG</b>	<b>MBG/WSP</b>
<b>Active Ingredients</b>	2.15% Bti	10% Bti	9% Bsph / 1% Bti	3% Bsph / 3% Bti
<b>Control Duration</b>	Up to 7 days	Up to 40 days	Up to 60 days	Up to 4 weeks
<b>OMRI Listed</b>	Yes	Pending	No	Pending
<b>EPA Registered</b>	Yes	Yes	Yes	Yes
<b>Formulation Technology</b>	Dual Action Flash Release	Dual Action Controlled Release	Dual Action Controlled Release	Dual Action Flash Release
<b>Target Habitat</b>	Short Duration Field Treatments, Floodwater	Intermittent Floodwater Habitat, Wet/Dry	Intermittent Floodwater Habitat, Wet/Dry	Catch Basin & Small Urban Areas
<b>Rotate with</b>	Altosid SBG, Altosand	Altosid XRG Altosid Pellets	Altosid XRG, Altosid Pellets	Altosid WSP Altosid Pellets

# Briquet Size Comparison



# FourStar Briquets

## FourStar® Briquet features:

- Proven microbial active ingredients
- 6-to-1 (6% *Bsph* / 1% *Bti*) combination active ingredients
- Long-term residual control

## FourStar® Briquet benefits:

- Environmental compatibility alleviates community concern
- Long residual reduces treatment frequency
- Savings on application labor cost
- Dual active ingredients help prevent resistance development



Zenivex New Crop Label

FourStar Microbial Update





January 8, 2014

Crop Label Approved

- FOR USE OVER AGRICULTURAL CROPS (INCLUDING THOSE INTENDED FOR HUMAN CONSUMPTION), PASTURE, AND RANGELAND TO CONTROL ADULT MOSQUITOES, NON-BITING MIDGES AND NUISANCE AND BITING FLIES
- EPA Reg. No. 2724-791





- ZENIVEX® E20 & E4 may be applied over crops (including row, tree, fruit, citrus, pasture and other areas where agricultural enterprises take place) or to areas where drift over cropland could occur





# Questions?



# Contact Information

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How long does it take for a FourStar  
Briquet to sink”



